This invaluable study, conducted with typical American team work and thoroughness, presents the results of a clinical and environmental survey of six factories and 897 workers concerned with the manufacture of chromates and bichromates. The process consists of roasting finely ground chromite ore with soda ash or a soda ash-lime mixture to produce sodium chromate which is converted by acidification and crystallization into sodium bichromate.

Ten men, mean age 54-5 years and mean exposure to chromates 22-8 years, were found to have bronchogenic carcinoma. This represents a rate of 1,115 per 100,000, which is far higher than the rate found in a comparative group. A study of morbidity and mortality statistics for the industry showed that there were nearly 29 times as many deaths from respiratory cancer among chromate workers as the expected rate for all males in the United States. The rate for coloured males was higher than for white males. The excess incidence was confined to cancer of the respiratory tract. There was no excess for other sites.

Perforation of the nasal septum was found in 56-7% of chromate workers and again the incidence was higher among coloured men. The condition also developed more rapidly in this group. Fifty-four per cent. had skin ulcers or their scars, but only 2% had chrome dermatitis. There was no evidence of an undue incidence of dental caries though gingivitis and periodontitis were noticed with greater frequency among chromate workers.

The main feature of the environmental investigation was the discovery of an acid-soluble-water-insoluble chromium fraction, differing from the commoner trivalent or hexavalent compounds, which is present in the roast and residue from the leaching tanks. It is considered that this material, probably a calcium chromate-chromite complex, may be responsible for the occurrence of the disease. The practice in Germany and America is to use the residue to mix with the fresh ore, while in Britain it is discarded. This fact may explain Bidstrup's finding that there has been no unusual incidence of pulmonary carcinoma in the British chrome-producing industry.

The recommendations arising out of the survey include: (1) More complete enclosure of processes; (2) dust control features incorporated in design of new equipment; (3) local exhaust ventilation; (4) regular routine air analyses by competent persons; (5) good housekeeping to prevent spillage and accumulation of dust; (6) personal protection until air concentrations are reduced to a safe level; (7) routine radiograph every three months on men who have worked in the industry more than five years; (8) continuation of morbidity and mortality statistics; (9) continuation of biochemical and toxicological research on all chromium compounds.

R. Murray


"Price's Textbook of Medicine" was always a mixed bag with some outstandingly good and some equally bad sections. Now, under the editorship of Dr. Donald Hunter, it retains this characteristic feature. Dr. Hunter claims that it is a "unique compilation of modern knowledge". It is, indeed, encyclopaedic, including many rare diseases, but yet some common disorders appear to have slipped through the editor's mesh; for instance, I could find no reference in the index to cough syncope or senile osteoporosis. Unfortunately it also retains a fair sprinkling of Edwardian folk lore. In the treatment of cough in influenza it is stated that "dry cupping is often of service" and a nasal spray of chlorbutol and menthol in liquid paraffin is recommended without reference to its dangers. In the section on pulmonary tuberculosis two pages are devoted to collapse therapy, but only one to chemotherapy. The regimes described here are out of date and there is no clear statement on the necessity for using combinations of antibacterial drugs. Under portal cirrhosis there is no mention of portal systemic encephalopathy, and high-protein diets which may precipitate it are advised without warning. In the cardiac section there are four pages on electrocardiography but no illustrations; on the other hand, there is one illustration of an electroencephalogram in the neurological section. These random gleanings lead to a sense of wariness in accepting the reliability and balance of the book. Much of it is, however, excellent. Especially good are the introductory chapters on "Antibacterial Drugs" (but why more space to sulphonamides than to all the others put together?), the "Anaemias" (by L. J. Witts) and "Diseases of the Kidney" (by Horace Evans and Clifford Wilson). What a pity it is that publishers do not issue offprints of the separate sections of these vast omnibuses so that we could pick the good ones without having to take the rubbish. To get 1,700 pages of text for 63s. is a good bargain, but it is rather like a mixed lot at an auction.

C. M. Fletcher


Every British medical student and practitioner probably is or has been familiar with this remarkable book, which started its life in the year 1897 and after flourishing for 12 editions has now blossomed into a new and exciting thirteenth edition.

While we must deeply regret that Sir Robert Hutchison should have retired from the authorship of a work which he has for so long personally inspired, the present authors have thoughtfully altered the title to perpetuate not only his name in this connexion but also the fundamental philosophy with which Sir Robert Hutchison taught his students.

During its long years and many editions, Clinical Methods must have been reviewed many hundreds of times, and those who have read such reviews will be familiar with the words of praise lavished upon it. We know already from our own experience that it fits into the pocket (not quite so easily as before perhaps) and that it is a mine of useful information. Whether we are humble students anxiously feeling our way in the awesome fog of our first clinical studies or ambitious diagnosticians...